



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,319	10/31/2001	Terrence Jones	10010587-1	3397

7590 10/06/2004  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER

KANG, INSUN

ART UNIT PAPER NUMBER

2124

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/001,319	<b>Applicant(s)</b> JONES ET AL.	
	<b>Examiner</b> Insun Kang	<b>Art Unit</b> 2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 2/2/2004, 4/26/2002, and 10/31/2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/2/2004</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This action is responding to application papers dated 2/2/2004, 4/26/2002, and 10/31/2001.
2. Claims 1-23 are pending in the application.

### ***Drawings***

3. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

4. Claims 2 and 3 are objected to because of the following informalities: Per claim 2, there is a missing '.' after "sequentially." Per claim 3, one of two periods needs to be deleted. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the triggered macro" in line 19. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "said one or more macros" in line 10. There is insufficient antecedent basis for this limitation in the claim.

Per claim 14, it is unclear as to which one or more stimuli" (lines 3 and 8) and "one or more hard ware states" (lines 4 and 8) they are referring. They are interpreted as "the one or more stimuli" and "the one or more hard ware states."

Claim 14 recites the limitation "the one or more macros" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Per claim 19, it is unclear as to which "one or more hard ware states" in line 25 it is referring. It is interpreted as "the one or more hard ware states."

Per claim 21, it is unclear as to which "fixturing device" in line 5 it is referring. It is interpreted as "the fixturing device."

Per claim 23, it is unclear as to which "one or more macros" in line 12 it is referring. It is interpreted as "the one or more macros."

As per claims 2-13, 15-18, 20, and 22, these claims are rejected for dependency on the above rejected parent claims 1.

***Claim Rejections - 35 USC § 101***

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 14-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 14-23 are non-statutory because they are directed to a “structure” without recitation of a computer or a computer-readable medium embodying the structure. The claims merely recite a “structure” that is disembodied arrangement so as to be called a “computer program” or compilation of facts, information, or data *per se*, without creating any functional interrelationship, either as part of the stored data or as part of the computing processes performed by the computer (“acts”) or computer readable medium so as to enable the computer to perform the claimed steps of initiating operation of the structure by the automation software module, receiving one or more stimuli by the firmware module, etc as recited.

Thus the claims represent non-functional descriptive material that is not capable of producing a useful result, and hence represent only abstract ideas. Therefore, the claims are non-statutory.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Buckler et al. (US Patent 5,050,088) hereinafter referred to as "Buckler."

Per claim 1:

Buckler discloses:

- selecting a macro of one or more compiled macros in response to one or more stimuli ("Each piece of processing equipment is programmed to be responsive to the sequence of operations defined by the program modules...through each workstation is controlled by the job descriptions and process scripts," abstract)
- said one or more macros are created using a high-level programming macro language ("a production control system...to manufacturing workcells...processing equipment therein...a plurality of program modules with each module defining a sequence of operations that are to be performed by at least one piece of processing equipment," abstract)
- compiling one or more macros into a format recognizable by an interpreter residing within a fixturing device ("to provide a system that is configurable, interactively, through high level scripts," col. 2 lines 15-22)
- transferring the one or more compiled macros to a firmware residing within the fixturing device; and the firmware running the triggered macro and executing one or more

commands contained therein in response thereto ("to provide a system that is configurable, interactively, through high level scripts," col. 2 lines 15-22) as claimed.

Per claim 2:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- each of the one or more commands are interpreted sequentially (col. 2 lines 15-22)

Per claim 3:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- the high level macro programming language may be determined by the fixturing system (col. 1 lines 5-16; col. 2 lines 15-22) as claimed.

Per claim 4:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- the one or more macros are compiled external to the fixturing device (col. 1 lines 55-65) as claimed.

Per claim 5:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- prior to the firmware interpreting the triggered macro, a triggered macro byte code is transferred to a local memory of the fixturing device (col. 6 lines 20-44) as claimed.

Per claim 6:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- the macro is triggered by one or more internal events corresponding to one or more hardware states of the fixturing device (col. 6 lines 20-44) as claimed.

Per claim 7:

The rejection of claim 6 is incorporated, and further, Buckler teaches:

- the one or more internal events are stored in a nonvolatile memory of the fixturing device (col. 6 lines 17-22) as claimed.

Per claim 8:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- the macro is triggered by one or more external commands transmitted by a control software module (col. 6 lines 20-44; col. 7 lines 64-67) as claimed.

Per claim 9:

The rejection of claim 8 is incorporated, and further, Buckler teaches:

- the control software module is a compiler for the one or more macros (col. 2 lines 15-22) as claimed.

Per claim 10:

The rejection of claim 1 is incorporated, and further, Buckler teaches:

- the one or more macros are compiled into byte code (col. 1 lines 55-65) as claimed.

Per claim 11:

The rejection of claim 10 is incorporated, and further, Buckler teaches:

- the byte code is downloaded into a nonvolatile memory of the fixturing device (col. 6 lines 17-22) as claimed.

Per claim 12:

The rejection of claim 11 is incorporated, and further, Buckler teaches:

- one of a revision code is downloaded with the byte code, said revision code operable to determine a version of one or more macros currently loaded within the fixturing



device (col. 10 lines 21-35) as claimed.

Per claim 13:

The rejection of claim 12 is incorporated, and further, Buckler teaches:

-during a system initialization, further comprising: a control software comparing a first macro revision with a second macro revision determined by a default macro file; and if the first macro revision and the second macro revision are not equivalent, the control software compiling and downloading the one or more macros from a file (col. 10 lines 21-35) as claimed.

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter referred to as "APA") disclosed in the instant application in view of Buckler et al. (US Patent 5,050,088) hereinafter referred to as "Buckler."

Claim 14:

APA discloses:

- a supervising automation software module, coupled to a control software module, said automation software module operable to initiate operation of the structure

("Often the design using an embedded controller...allows the fixturing device...to be operated autonomously," page 4 lines 6-21)

- a fixturing device, coupled to the control software module, said fixturing device further comprising ("an embedded controller...such as a programmable logic controller...embedded within fixturing device...to control fixture system," page 4 lines 6-21)
- a firmware module, said firmware module operable to receive one or more stimuli, preferably corresponding to one or more hardware state changes of said fixturing device ("This type of fixturing device 220 has an embedded controller 230 with advanced firmware 240. The firmware 240 supports an extensive command set that includes high-level commands for normal operation. The test software 210 does not need to have intimate knowledge of the fixturing device 220 internal operation, although the fixturing device 220 does depend upon the controlling software 210 for basic operation. This is because the controlling software 210 polls the fixturing device 220 for changes in state, prior to executing commands to change the state of the fixturing device 220," page 4 lines 6-21)
- one or more local memory modules, coupled to the firmware module, said local memory modules operable to contain one or more compiled macros and one or more stimuli preferably corresponding to one or more hardware states ("The embedded controller...is operable to respond to events...generated by changes in the hardware state...of the fixturing device," APA, pae 4 lines 6-21)

APA does not explicitly teach the one or more macros, in response to the firmware module receiving one or more stimuli, causing one or more hardware states of the fixturing device to be changed. However, Buckler teaches it was known in the art of computer automated configuration and testing, at the time applicant's invention was made, to perform various operations autonomously ("a production control system and an associated method for interfacing automated material handling systems to manufacturing workcells...performing processing jobs on provided material," abstract) such as those disclosed in Buckler. It would have been obvious for one having ordinary skill in the art of computer automated configuration and testing to modify APA's disclosed system to incorporate the teachings of Buckler. The modification would be obvious because one having ordinary skill in the art would be motivated to change the hardware states of the fixturing device autonomously by using macros as suggested by Buckler ("Each piece of processing equipment is programmed to be responsive to the sequence of operations defined by the program modules," abstract) as claimed.

Per claim 15:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- the one or more stimuli are events receivable by the firmware module (Buckler, col. 2 lines 15-22) as claimed.

Per claim 16:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

Art Unit: 2124

-the one or more stimuli are commands receivable by the firmware module (Buckler, col. 2 lines 15-22) as claimed.

Per claim 17:

The rejection of claim 14 is incorporated, and further, APA teaches:

- the control software module is coupled to the fixturing device via an electronic transmission cable (APA, page 2 lines 13-21) as claimed.

Per claim 18:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- one or more of the one or more local memory modules are nonvolatile (Buckler, col. 6 lines 17-22) as claimed.

Per claim 19:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- the firmware module is operable to change one or more hardware states in response to the one or more stimuli (Buckler, col. 6 lines 20-44) as claimed.

Per claim 20:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- the one or more compiled macros were previously compiled using the control software module (Buckler, col. 42 lines 39-67) as claimed.

Per claim 21:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

Art Unit: 2124

- the one or more compiled macros are operable to be interpreted during an operational mode of fixturing device (Buckler, col. 10 lines 21-35) as claimed.

Per claim 22:

The rejection of claim 14 is incorporated, and further, Buckler teaches:

- the control software module sends one or more commands, receivable by the firmware (Buckler, col. 42 lines 39-67) as claimed.

Per claim 23:

The rejection of claim 22 is incorporated, and further, Buckler teaches:

- the firmware module, upon receiving the one or more commands, executes one or more macros contained within the one or more local memory modules (Buckler, col. 6 lines 17-22) as claimed.


13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Insun Kang whose telephone number is 703-305-6465. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on 703-305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2124

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IK  
9/24/2004

  
**KAKALI CHAKI**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**